
C3P
Center for Pollution Prevention Program
NASA
esa
UCSD Jacobs | School of Engineering
INTERNATIONAL WORKSHOP
ON ENVIRONMENT AND ENERGY
"Global Collaboration in Sustainable Environmental and Alternative Energy Strategies"
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Panel on measuring sustainability
Intervention by
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DEFINITIONS OF SUSTAINABLE DEVELOPMENT (SD)

➥ **Measuring sustainability is before all defining sustainability. There are many definitions among which those two:**

1. The famous and almost historical one by Mrs Brundland, Chair of the World Commission on Environment and Development in 1987:

"SD is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

2. Another one could describe it as the challenge aiming at conciliating ecological, social and economical development.

INTRODUCTION AND BACKGROUND INFORMATION

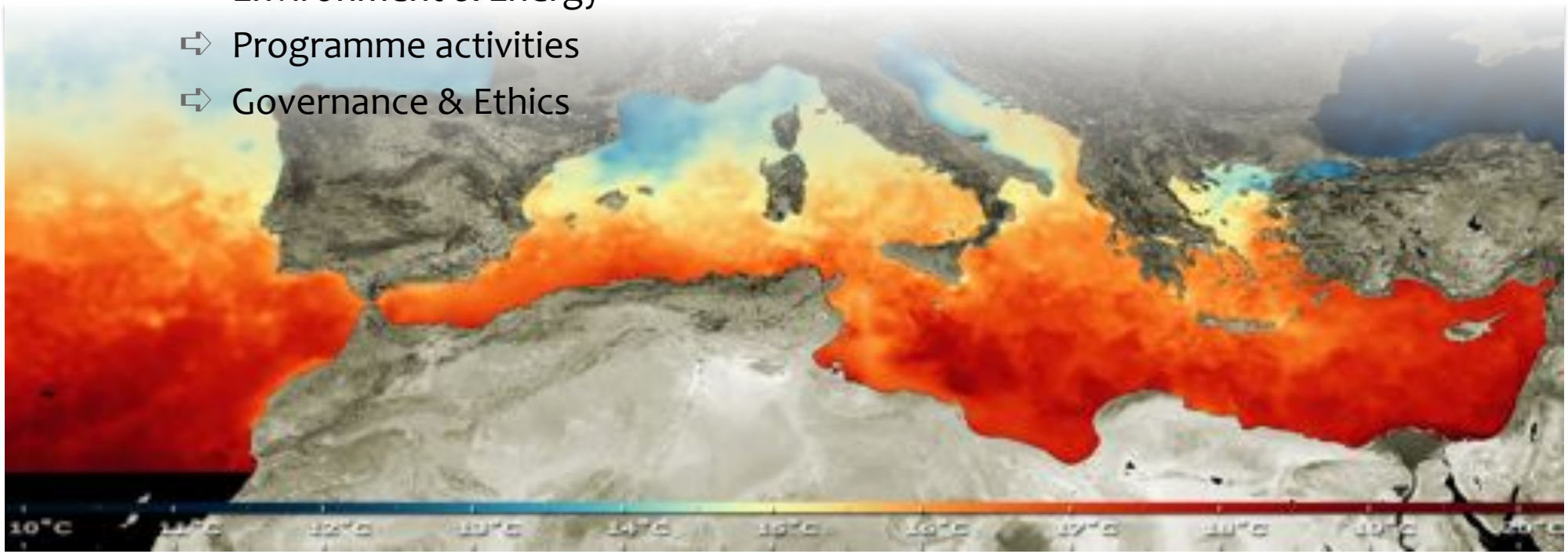
2 years ago a new position at ESA was created:

- **the Head of Coordination Office on Sustainable Development (COSD)**
  - in order to have a focal point within the whole organisation to deal with sustainability issues.
- **Two main functions:**
  - a policy-making function
  - a support to implementation and a reporting function
- **In both functions, the Head of Office (Nathalie Meusy) remains a generalist who relies on experts within and outside ESA for what concerns their field of responsibility and expertise.**

ESA GLOBAL POLICY ON SD

Regarding policy-making, ESA presented in March 2010 at its Council of Member-States a Framework policy on Sustainable Development (which is important to frame ESA indicators).

- **3 main areas of action:**
  - Environment & Energy
  - Programme activities
  - Governance & Ethics



ENVIRONMENT & ENERGY

- **The Agency commits on the 20/20/20 target:**
  - 20% reduction in greenhouse gas emissions
  - 20% improvement in energy efficiency
  - 20% of energy consumption to come from renewable resources

The Agency also commits to have its main sites certifiable ISO 14001 in the coming months or years

- **NEXT STEP:**
  - The launch of a **dedicated policy for 2011** with
    - action plan by field of activity
    - investments proposed with necessary associated ROI

PROGRAMME ACTIVITIES:
SUSTAINABILITY IN PROGRAMMES

- **CONSTRAINTS mainly concern environmental regulations:**
  - Actual and future ones and our ability to react to their requirements and find adequate responses
- **OPPORTUNITIES come from the exploration of integrating "greener" solutions in our missions**
  - e.g: LCA methodology, green engineering, Clean tech, etc.
- **Major qualitative INDICATOR with regard to Sustainable Development:**
  - the huge **contribution** represented by space activities aiming at achieving a **more sustainable society and planet**
    - by monitoring climate change, anticipating natural disasters, connecting people, etc.

GOVERNANCE & ETHICS:
HOW TO WORK IN A « CLEAN » WAY

- It relates to:
  - Ethics and governance of ESA as an organisation and as a space agency
  - Ethics of space but also how we deal with all our stakeholders and especially our Member-States:
    - how we spend public money,
    - how we are accountable,
    - how we create economical, social, developmental values mainly for Europe
- It also deals with
  - The way we are a socially responsible organisation towards our own employees for instance
- It tackles the necessity to have a coherent and transparent assessment scheme and communicate on it to our stakeholders through our first report on Sustainable Development.

FROM THE FRAMEWORK POLICY TO THE 1ST SD REPORT

- **In our 1st Sustainable Development (SD) report (available on www.esa.int as from 2nd week of December 2010), we tried to:**
  - answer the following questions:
    - How are SD and space connected?
    - To what extent can space activities contribute to the building of a sustainable society?
    - How can ESA's own operations be made more sustainable?
    - How can ESA cooperate with its stakeholders through a proactive policy?
  - give the first skeleton of what will be our future **reporting scheme** assessing the ESA's "Sustainable Development footprint".

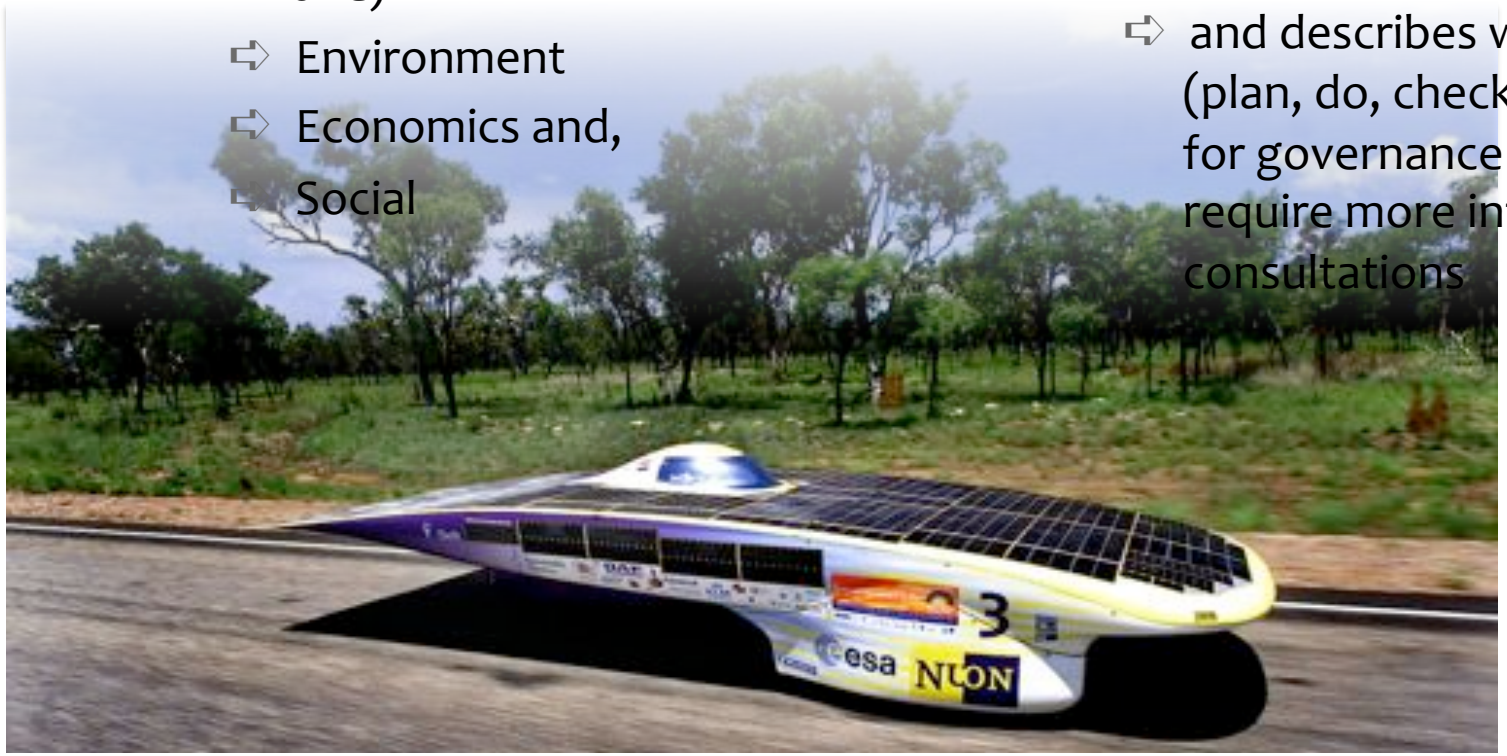
MEASURING SUSTAINABILITY

- In order to measure sustainability, there are international standards that can be used among which:
  - The Global Reporting Initiative
  - The 10 UN Global Compact principles
  - OECD and ILO guidelines
- Some companies are obliged by Law to report on sustainability
- At ESA we decided to do it on a **voluntary basis** to raise awareness and to share with partners and stakeholders

MEASURING SUSTAINAIBILITY AT ESA

- **We mainly used the GRI indicators to assess our activities. We split them into four categories:**
  - Governance (as a transversal one)
  - Environment
  - Economics and,
  - Social

- **Each category has:**
  - management goals,
  - KPI metrics (quantitative or qualitative),
  - supporting tools or examples,
  - and describes what's the status (plan, do, check or act), except for governance which will require more internal consultations



EXAMPLE:
ENVIRONMENT AND ENERGY KPI

MANAGEMENT GOALS	KPIS – METRICS	STATUS	SUPPORTING TOOLS OR EXAMPLES	REFRENCES SEE PAGES	GRI – KPI CORRESPONDENCE
Establish an EMS (Environmental Management System) on all sites	• Measure, monitor and manage the Environmental Significant Aspects: • (Energy, Waste, Water, Paper, Emissions,…) Number or status of sites covered by a certifiable ISO 14001 system	Plan / Do	• ESRIN (towards certification) • Computer Integrated Facility Management system for Data reporting on energy ,waste, water and paper outputs and inputs	32 - 36	EN26

EXAMPLE:
ENVIRONMENT AND ENERGY KPI

MANAGEMENT GOALS	KPIS – METRICS	STATUS	SUPPORTING TOOLS OR EXAMPLES	REFRENCES SEE PAGES	GRI – KPI CORRESPON DENCE
Comply with environmental constraints and legislation; anticipate their impacts	• Number or type of activities technologies, and materials concerned by environmental regulations • Type of structures working on environmental compliance and future stakes	Do / Check	• REACH / RoHS working groups • ESCC and CTB	28- 42	

EXAMPLE: ECONOMICS KPI

MANAGEMENT GOALS	KPI – METRICS	STATUS	SUPPORTING TOOLS OR EXAMPLES	REFERENCES SEE PAGES	GRI – KPIS CORRESPONDENCE
Stimulate local development and innovation	• Number/ type of jobs offered in the space sector • Number/ type of spin offs • Number of SMEs associated	Act	• Space Development & Technology programmes • Geo-return and best practices policy • Downstream applications (telecommunications, navigation, earth observation etc) • SMEs initiative • Incubators • Space technology transfer	25 – 39 – 41	EC1 EC6 EC7 EC9
Deal with supply chain compliance	• Dedicated committees and activities • Solutions proposed to deal with supply chain issues	Plan / Do	• Project Management oversight • Tender evaluation process • Project review cycle • Technical Audits & Certifications • ECSS • ESCC • CTB • Working groups on REACH	28 – 42	

EXAMPLE: SOCIAL KPI

MANAGEMENT GOALS	KPI – METRICS	STATUS	SUPPORTING TOOLS OR EXAMPLES	REFERENCES SEE PAGES	GRI - KPI CORRESPONDENCE
Promote equal opportunities	• Percentage/ evolution of women per grade/ management positions • Report on various programmes	Act	• Diversity management policy • NOW programme • WHIST	51 – 52	LA1-LA2 LA11 LA13 LA14
Develop employees competencies/ knowledge	• Number of training days per year per individual enrolment • Training courses on diversity • Transmission of Knowledge and know-how	Act	• Training • Internal University • Knowledge sharing	50 - 51	LA8 LA10-LA12

REPORT ON ENVIRONMENTAL IMPACTS

ESA produced a 3-year report on:

- C02 emissions
- Water consumption
- Paper consumption
- Waste collection

Measurement organisation

- was a key issue
- all sites collected data through their own Local EMS

so that they could feed the global EMS

Objectives:

- build up a global dashboard for all our indicators with data coming from the various sources
- monitor our performance and our progress especially in the environmental field
- produce a dashboard consultable by professionals and in-house specialists, but also at another level of access by any staff member
    - Indeed **knowledge and awareness** are really a **key-factor** of success for a sustainability policy and associated measurement

WHAT ABOUT COLLABORATION ON SD?

- **ESA would like to continue and exchange on the possibility to have indicators common and specific to the space sector and in particular to space agencies in order to:**
  - raise and share concerns,
  - improve the situation
  - promote the benefits coming from space for the people and for the planet
- **We are in fact, with some of our partners, pioneering sustainability measurement for space agencies.**